

AMENDMENTS IN THE SPECIFICATION:

Please amend page 5, line 24, through page 19, line 11, as follows:

SUMMARY OF THE INVENTION

~~With a view~~ In order to attain the ~~purpose~~ above-mentioned object, according to one aspect of the present invention ~~of claim 1~~, there is provided a removable device, which is attached/detached to/from a universal peripheral device interface of a computer executing a specified ~~prescribed~~ automatic startup script or an auto-starting program stored in a device of a specified type when the device is connected thereto ~~and including control means, comprising: a controller;~~ and a ROM or a read/writable storage device as its main storage device, wherein the ~~control means~~ controller includes a hub allocator for allocating data exchange with the computer to each of a plurality of unit devices unit devices including a first unit device and a second unit device, ~~means for allocating data exchange with the computer to the unit devices,~~ and means a transmitter which, upon connection to the universal peripheral device interface, initially first, sends a first signal simulating a device of the a specified type in which an automatic startup script or an auto-starting program is stored in the storage device and executed by the computer to which the device is attached, on account of the first unit device, and then, at a predetermined specified timing, sends the computer a specified second signal used for accepting recognition on account of the second unit device.

~~The invention~~ According to another aspect of ~~claim 18~~ is the present invention ~~of claim 1~~ viewed in terms of a computer program, i.e. there is provided a firmware program for a control circuit of a removable device which is attached/detached to/from a universal peripheral device interface of a computer executing a specified automatic startup ~~start-up~~ script or an auto- starting program stored in a device of a specified type when the device is connected thereto and including

~~includes~~ control means and a ROM or a read/writable storage device as its main storage device, wherein: the program causes the control circuit to allocate data exchange with the computer to a plurality of unit devices including a first unit device and a second unit device, and, upon connection to the universal peripheral device interface, ~~initially~~ first, to send a first signal simulating a device of the specified type in which an automatic startup script or auto-starting program is stored in the storage device and executed by a computer to which the device is attached, on account of the first unit device, and then, at a predetermined specified timing, to send the computer a specified second signal used for accepting recognition on account of the second unit device.

In these embodiments, sending the computer a signal simulating a first unit device as a device of a specified type (for example, a CD-ROM drive), on which automatic startup of programs, etc. is to be run, causes the execution of the desired scripts or programs (hereinafter called “programs, etc.”) to be started even if a peripheral device utilizing a USB memory, etc. is used, and a different second unit device is recognized afterwards, at a predetermined timing. As a result, access to the second unit device is limited to the programs etc., which makes it possible to maintain secrecy. In this manner, providing a time difference between the automatic startup of the programs etc. and recognition makes it possible to offer a removable device of superior convenience and security.

In addition, providing a time difference between the automatic startup of programs etc. and recognition as described above allows for setting up a digital camera or another peripheral device as a second unit device and carrying out advance installation of its device drivers with the help of the programs, etc. as well as makes it possible to provide a removable device that

automatically installs programs and is compact in size because it permits miniaturization using flash memory.

~~The invention of claim 2 is the removable device according to claim 1,~~ wherein may store an auto-starting program invoked by the automatic startup script or the auto-starting program ~~is stored in the removable device,~~ and the auto-starting program supplies may supply the ~~control-means~~ controller an instruction that causes the computer to recognize the second unit device when a user is authenticated by password by the computer, supplies may supply the ~~control-means~~ controller an instruction to format data in the second unit device when an incorrect password is entered a specified number of times during the authentication, and may periodically sends send specified recognition extension signals to the ~~control-means~~ controller, and the ~~control-means includes-means~~ controller may include a data formatter for executing the formatting instruction and ~~means~~ a canceller for canceling the recognition of the second unit device by the computer when the recognition extension signals are interrupted for a specified period of time.

In this embodiment, as a result of running the auto-starting program, recognition of the second unit device is preconditioned by password authentication, such that, if a password is entered incorrectly several times, the device is formatted and, if the program terminates, recognition is canceled, thereby making access difficult except for the auto-starting program, which helps maintain superior security.

~~The invention of claim 3 is a removable device attached/detached to/from a universal peripheral device interface of a computer executing a specified automatic startup script or an auto-starting program stored in a device of a specified type when the device is connected thereto~~

~~and including control means and a ROM or a read/writable storage device as its main storage device, wherein the removable device includes means~~ may further comprise: a connector for connecting another peripheral device, and the ~~control means includes means~~ controller may include a data allocator for setting up all or part of the main storage device as a first unit device and the other peripheral device as a second unit device and allocating data exchange with the computer side to each of the unit devices, ~~and means which, upon connection to the universal peripheral device interface, initially sends a signal simulating a device of the specified type on account of the first unit device, and then, at a predetermined timing, sends the computer a specified signal used for accepting recognition on account of the second unit device.~~

In this embodiment, at the beginning, a signal simulating the first unit device as a device of a specified type (for example, a CD-ROM drive), on which automatic startup of programs, etc. is to be run, is sent to the computer. As a result, even if a peripheral device utilizing a USB memory, etc. is used, the desired programs, etc. can be automatically executed, and recognition of another second unit device is carried out afterwards at a predetermined timing. Thus, the second unit device can be a digital camera or another peripheral device and the execution of installers for dedicated programs, such as device drivers for the other peripheral device, is facilitated by connecting the other peripheral device to the computer via the removable device of the present invention by providing both male and female connectors in the removable device of the present invention or integrating it with the other peripheral device as a component for a built-in board. As a result, the use of actual CD-ROMs and other unwieldy storage media, as well as burdensome procedures required by dedicated software programs is rendered unnecessary.

If the removable device of the present invention is integrated with the other peripheral device, the removable device of the present invention can be set to permit pass-through when connected for the second time or later by controlling its inner circuitry with a changeover switch, thereby establishing a direct connection between the computer and the other peripheral device, or, otherwise, whenever connected, it can be caused to proceed with the recognition of the second unit device immediately so long as the programs etc. confirm the presence of the dedicated software programs on the computer and their installation is complete. If the removable device of the present invention is physically separate from the other peripheral device, then the computer can be directly linked to the other peripheral device without interposing the removable device of the present invention in between.

~~The invention of claim 4 is a removable device attached/detached to/from a universal peripheral device interface of a computer and including control means and with a ROM or a read/writable storage device as its main storage device, wherein the removable device includes means for connecting another peripheral device, and the control means includes means for setting up all or part of the main storage device as a first unit device and the other peripheral device as a second unit device and allocating data exchange with the computer to each of the unit devices, and means~~ controller may include a signal transmitter which, upon connection to the universal peripheral device interface, ~~initially~~ first, sends a specified signal used for accepting recognition on account of the first unit device, and, when a program read and executed from the recognized first unit device sends a specified cue signal, sends the computer a specified signal used for accepting recognition on account of the second unit device.

In this embodiment, an installation program stored in advance in the first unit device, which is recognized first, is manually started by the user and a cue signal is sent when the installation is complete, such that recognition of the second unit device is carried out. By doing so, device drivers and other dedicated software programs can be readily provided to the user via a compact removable device without using automatic program startup.

~~The invention of claim 5 is the removable device according to any of claims 1 through 4, wherein the~~ auto-starting ~~program acquires the~~ may acquire a drive letters ~~letter of each~~ letter of each of the unit devices on the computer and transmits ~~them~~ the same to the removable device.

As a result, regardless of the environment, such as an OS, etc., applications and other programs can identify data location in the removable device, thereby enabling smooth access to such data.

~~The removable device of claim 6~~ According to another aspect of the present invention, there is provided a removable device, ~~including comprising:~~ a rewritable non-volatile memory; and ~~control a means~~ controller for mediating access from a USB host side to the memory, wherein: ~~the control means controller~~ upon connection to the host side, connects a portion of the memory to the host side, and, upon reception of a specified cue signal from the host, connects another portion of the memory to the host side.

As a result, by sending a cue signal from the host upon user authentication, information stored in the other portion of the memory is protected from third parties lacking proper authority, thereby implementing information security.

~~The~~ According to another aspect of the present invention of claim 7, there is provided a control circuit mediating, as a USB client, access from ~~the~~ a host side via ~~the~~ USB to a rewritable

non-volatile memory, wherein the circuit includes; a slave side connection port for external device connection, ~~means;~~ a region manager for partitioned management of the memory as a plurality of ~~regions;~~ regions; ~~simulated a hub means~~ simulator for connecting and disconnecting the regions and external devices, which are connected to the slave side connection port, to and from the host as a plurality of unit devices divided by the hub; and a command interpretation means interpreter for detecting and executing ~~special dedicated commands~~ command sent from the host side and including, at least, ~~commands to connect~~ command for connection of any of the unit devices.

~~The~~ According to another aspect of the present invention of claim 19, there is the invention of claim 7 viewed in terms of a computer program, i.e. provided a firmware program for a control circuit mediating, as a USB client, access from the host side via the USB to a rewritable non-volatile memory, wherein the program causes the control circuit to carry out partitioned management of the memory as a plurality of regions, to connect and disconnect the regions and external devices, ~~which are~~ connected to the slave side connection port used for external device connection, to and from the host side as a plurality of unit devices divided by the hub, and to detect and execute ~~special dedicated commands~~ command sent from the host and including, at least, ~~commands to connect~~ connection of any of the unit devices.

~~The invention of claim 8 is a control circuit according to claim 7, wherein a~~ A simulated CD-ROM format-compatible region is may be used as one of the regions, and, ~~when in case the~~ host side accesses the simulated CD-ROM format-compatible region configured in the non-volatile memory using the CD-ROM format, the circuit ~~performs~~ may perform conversion between such access and access in the non-volatile memory format.

In these embodiments, external devices and a plurality of regions produced by partitioning the memory can be connected to, and disconnected from, the host side in the desired combinations and at the desired timing, thereby making it possible to implement a highly universal control circuit that can be utilized for a security drive or for installation of device drivers used for external peripheral devices.

~~The invention of claim 9 is a control circuit, according to claims 7 or 8, wherein an~~ An invisible region different from the regions ~~is~~may be provided with the help of the partitioned management in the non-volatile memory, and access to information in the invisible region ~~is~~may be authorized exclusively based on the ~~special~~ dedicated commands command.

~~The invention of claim 20 is the invention of claim 9 viewed in terms of a computer program, i.e. a firmware program for a control circuit according to claim 19, wherein the program causes~~ may cause the control circuit to provide an invisible region different from the regions in the non-volatile memory ~~using with the help of~~ the partitioned management, and access to information in the invisible region is authorized exclusively based on the ~~special~~ dedicated commands command.

In these embodiments, IDs, passwords, license keys, partitioned management system information, and other particularly important information is effectively protected from cracking, blocking, and other threats.

~~The invention of claim 21 is a~~ In the firmware program ~~for a control circuit mediating, as a USB client, access from a host via the USB to a rewritable non-volatile memory, wherein the program causes~~ may cause the control circuit to perform partitioned management of the memory as a plurality of regions ~~plus~~ and an invisible region that is different from these regions and has a

specified password stored therein, to connect, upon connection to the host side, one of the regions to the host side as a single device connected to the hub, and to connect ~~the other~~ another region of the regions to the host as another device connected to the hub when a specified special dedicated command is sent from the host side or when a password sent from the host side matches the specified password stored in the invisible region.

~~The invention of claim 10 is a control circuit according to any of claims 7 to 9, wherein the command interpretation means detects the special commands when bit patterns corresponding to the parameters and type of the commands are stored in a specified register region provided in the memory, and places the results of command execution into a specified register region in the form of bit patterns.~~

~~The invention of claim 22 is the invention of claim 10 viewed in terms of a computer program, i.e. a firmware program for a control circuit according to any of claims 19 to 21, wherein the program causes the control circuit to command interpreter may detect the special dedicated ~~commands~~ command when bit patterns corresponding to the parameters and type of the ~~commands~~ command are stored in a specified register region provided in the memory, and to may place the a results result of command execution in into a specified register region in the form of bit patterns.~~

~~The invention of claim 11 is the control circuit according to any of claims 7 through 10, wherein the command interpretation means detects, with respect to the special commands, patterns corresponding to the parameters and the type of the commands from access to specified contents, specified file names, specified physical addresses in any of the unit devices, any of the unit devices, or the hub.~~

~~The invention of claim 23 is the invention of claim 11 viewed in terms of a computer program, i.e. a firmware program for a~~ may cause the control circuit according to any of claims 19 through 22, wherein the program causes the control means to detect, with respect to the special commands, the dedicated command when bit patterns corresponding to the parameters and the type of the commands from access to specified contents, specified file names, specified physical addresses in any of the unit devices, any of the unit devices, or the hub command is stored in a specified register region provided in the memory, and to place a result of command execution into a specified register region as a bit pattern.

The command interpreter may detect, with respect to the dedicated command, patterns corresponding to their parameters and the type of the commands from accesses to specified contents, specified file names, specified physical addresses in any of the unit devices, any of the unit devices, or the hub.

The program may cause the control circuit to detect, with respect to the dedicated command, patterns corresponding to their parameters and the type of the commands from accesses to specified contents, specified file names, specified physical addresses in any of the unit devices, any of the unit devices, or the hub.

~~The invention of claim 12 is a~~ In the control circuit according to any of claims 7 through 11, in which, at least any one of the following is performed in accordance with the type of the special dedicated commands command.

- (1) (a) connecting ~~Connecting~~, disconnecting, and acquiring the a status of unit devices
- (2) (b) reading ~~Reading~~ and writing information to the invisible region
- (3) (c) reading ~~Reading~~ individually specific ~~identification~~ identifying information

- (4) ~~(d) modifying~~ Modifying region volumes volume
- (5) ~~(e) rewriting~~ Rewriting and updating the simulated CD-ROM format-compatible region

These embodiments can be used under many operating systems without special devices drivers because the special commands can be transmitted from the host side to the control circuit via ordinary read/write access, etc.

~~The invention of claim 13 is a control circuit according to any of claims 8 through 12, wherein the circuit includes~~ may further comprise a switch port ~~that switches the~~ for switching connection of the simulated CD-ROM format-compatible region to the host side on and off.

By doing so, it is possible to simplify system configuration and improve response speed after installation of programs such as device drivers used for externally connected devices because the CD-ROM region can be disconnected with a switch and kept off.

~~The invention of claim 14 is a control circuit according to any of claims 8 to 13, wherein the CD-ROM format-compatible region is~~ may be connected to the host ~~when~~ side whenever a command to initialize external devices ~~attached~~ connected to the slave side connection port is not sent from the host side within a certain time after connection to the host.

Doing so makes it easily to determine whether device drivers for downstream peripheral devices have been installed on a personal computer based on the presence/absence of the initialization command and renders unnecessary burdensome procedures such as turning a switch on/off after installation.

~~The invention of claim 15 is a control circuit according to any of claims 6 to 14, wherein~~ Data recorded in a specified region of the non-volatile memory is may be encrypted and data read therefrom is decrypted.

~~The invention of claim 24 is the invention of claim 15 viewed in terms of a computer program, i.e. a firmware program for the control circuit according to any of claims 19 to 23,~~
~~wherein the program causes~~ may cause the control circuit to encrypt data recorded in a specified region of the non-volatile memory and to decrypt data read therefrom.

In these embodiments, security is strengthened even more because data saved in the portion that is later connected and recognized upon authentication is protected by encryption, e.g. using the private key/public key system, etc.

The removable device ~~of claim 16 includes a~~ may comprise the control circuit according ~~to any of claims 7 to 15 and a switch used to select whether a peripheral devices~~ device attached connected to the slave side connection port ~~are to be~~ is immediately connected to the host side.

In this embodiment, when external peripheral devices are connected for the first time, the user waits for the installation of device drivers and other dedicated programs to complete and then connects the external peripheral devices to the host side, so that, by turning a switch on, the peripheral devices can be connected to the host side immediately next time or later, which enables system configuration simplification and response speed improvements. In addition, operation is further facilitated if it is also used as a switch for turning the connection of the simulated CD-ROM format-compatible region to the host on and off.

~~The invention of claim 17 is a removable device according to any of claims 1 to 6 or 16,~~
~~wherein the device includes~~ may further comprise a first connector means for connecting a mobile phone terminal using a wired or wireless connection;; and a second connector means for connecting it the same to a telephone network via an IP connection provided on a computer operating as ~~the~~ a host side.

This makes it easy to use economical IP telephony of superior convenience and security from anywhere and at any time using IP networks, such as the Internet, etc., the personal computer, and the send/receive functions of mobile phones.

~~The~~ According to another aspect of the present invention of claim 25, there is provided an information processing method in a control circuit of a removable device implementing ~~any of the following:~~ a removable device according to ~~any of claims 1 through 6, 16, and 17,~~ a control circuit according to ~~any of claims 7 through 15,~~ or a firmware program for a control circuit according to ~~any of claims 18 through 24~~ claim 1.

~~The~~ According to another aspect of the present invention, there is provided a circuit design pattern for a control circuit of a removable device ~~of claim 26 implements any of~~ implementing the following: a removable device according to ~~any of claims 1 through 6, 16, and 17,~~ a control circuit according to ~~any of claims 7 through 15,~~ or a firmware program for a control circuit according to ~~any of claims 18 through 24~~ claim 1.

~~The~~ According to another aspect of the present invention of claim 27, there is provided a removable device which is attached/detached to/from a universal peripheral device interface of a computer executing a specified auto-starting program stored in a device of a specified type when the device is connected thereto ~~and including control means, comprising: a controller; and a~~ ROM or a read/writable storage device as its main storage device, wherein the auto-starting program is stored in main storage device in advance, the ~~control means~~ controller includes ~~means~~ a transmitter for accepting recognition by sending the computer a signal simulating a device of the specified type in which the auto-starting program is stored in the storage device and executed by the computer to which the device is attached, upon connection to the universal peripheral

device interface, and the auto-starting program, along with causing the computer to ~~show~~ display, on its screen, ~~a graphic elements-element~~ used for displaying ~~a web pages page~~, causes the computer to display ~~the a~~ corresponding web ~~pages page~~ in response to specified operations of selecting the graphic ~~elements~~ element.

In this embodiment, even with a peripheral device utilizing a USB memory, when it is mounted to a computer, it sends a signal simulating a device of a specified type, such as a CD-ROM drive. As a result, by running the auto-starting program, the computer can display banners etc. on web pages even before the user starts the browser and, moreover, can pre-set web pages that match the interests of the owner of the removable device in advance, thereby providing for effective advertising. In addition, the auto-starting program is free in form and it can be a script, a program, or a script-mediated program startup.

~~The invention of claim 28 is a removable device according to claim 27, wherein the~~
graphic ~~elements-are~~ element may be stored in a specified protected storage region.

In this embodiment, storing graphic elements used for advertising in a specified protected storage region that is invisible and write-protected, etc. prevents inadvertent erasure and enables effective advertising.

~~The invention of claim 29 is a removable device according to claim 28, wherein the~~
specified protected storage region ~~is implemented by the control means with the help of hub~~
~~means may be realized by the controller including: an allocator~~ which, along with managing the main storage device by dividing it into a plurality of unit devices including a first unit device storing the auto-starting program and a second unit device storing the graphic elements, allocates data exchange with the computer to the unit devices, and ~~means~~ a signal transmitter which,

~~initially~~ first, sends the computer a signal simulating a device of the specified type on account of the first unit device and then authorizes access to the second unit device only for as long as specified signals are sent from the automatically started auto-starting program.

In this embodiment, the same state is implemented as if a plurality of peripheral devices were connected via a hub using LSI etc. and inadvertent erasure of advertisement-related data, such as image files containing the graphic elements, can be prevented by allowing the first unit device to be recognized first, thereby causing the auto-starting program to be started automatically, and then authorizing access to the second unit device only during the operation of the auto-starting program, which has functions enabling it to display the graphic elements, etc.

~~The invention of claim 30 is a removable device according to any of claims 27 to 29,~~
~~wherein the auto-starting program acquires, based on access to a predetermined server system,~~
may acquire at least one of information identifying the web page, and information concerning the graphic elements ~~by accessing a predetermined server system.~~

In this embodiment, obtaining web page and graphic element-related information from a specified server makes effective advertising possible based on a flexible approach involving modification of the web page and graphic element-related information in accordance with the rates of access by individual users.

~~The~~ According to another aspect of the present invention of claim 31, there is provided a
log-in method for logging in from a client system into a web server system, ~~wherein comprising:~~
storing information specifying the web server system and log-in information for user
identification and authentication utilized for logging into the web server system ~~is stored on the a~~
client system in advance, ~~and,~~ at the time of the log-in, ~~is sending sent them~~ from the client

system to a specified relay server, ~~and the relay server transfers~~ transferring the log-in information to the web server system; ~~and by the web relay server; system; and~~ via the relay server, causing a web browser provided on the client system to reflect a user-specific starting URL by the web server system, when the user is successfully authenticated by the log-in information.

In this embodiment, server login is automated, which makes processing faster and easier both when the user receives certain membership services from the server as a result of login and when the user is identified in order to narrow down the target audience of advertising. In addition, the automatic login performed by the program reduces the risk of passwords being recorded and misused by spyware or by a password cache on a borrowed personal computer. In addition, various management functions, such as changing advertisers or establishing access rates for each member, are rendered reliable and easy by logging in via a relay server.

The ~~invention of claim 32 is a log-in method according to claim 31, wherein~~ may further comprise sending updated information used for accessing a web page ~~is sent from the relay server to the client system logged into the web server system, system; and the client system, along with detecting the arrival of the updated information and, announcing it by displaying it on screen, accepts and accepting operations for access to the web page.~~

In this embodiment, users who have accessed the web page are presented with news about sales, etc. and other information in a push-type information distribution format.

According to another aspect of the present invention, there is provided a removable device, which is attached/detached to/from a universal peripheral device interface of a computer executing a prescribed automatic startup script or an auto-starting program stored in a device of a

specified type when the device is connected thereto, comprising: control means; and a ROM or a read/writable storage device as its main storage device, wherein the control means includes hub means for allocating data exchange with the computer to each of a plurality of unit devices including a first unit device and a second unit device, and means which, upon connection to the universal peripheral device interface, first, sends a first signal simulating a device of a specified type in which an automatic startup script or an auto-starting program is stored in the storage device and executed by the computer to which the device is attached, on account of the first unit device, and then, at a specified timing, sends the computer a second signal used for accepting recognition on account of the second unit device.

At page 27, lines 13-21, please amend the paragraph as follows:

2-4. Security Drive Based On Recognition Time Difference

In addition, the timing control unit 35 is a unit that controls the recognition control unit 32 such that it causes the computer 1 to recognize each unit device at a predetermined sequential timing. In other words, the recognition control unit 32 and the timing control unit 35 constitute means which, upon connection to the USB, initially sends the computer 1 a signal simulating a CD-ROM drive on account of the first unit device, and then, at a predetermined timing, sends the computer 1 a specified signal used for accepting recognition on the account of the second unit device.

At page 53, lines 18-25, please amend the paragraph to read as follows:

Then, as explained above, even in cases where media insertion is a pre-condition for script execution, the script is executed smoothly and reliably because the insertion simulation unit 33 returns a signal of the same pattern as insertion in a simulated manner in response to inquiries as to the presence of media, although, unlike with actual devices, no media insertion is performed when the recognition control unit 32 is caused to respond to the effect that the device is the specified target device (for instance, a CD-ROM drive) for script execution by the computer.

At page 54, lines 20-28, please amend the paragraph as follows:

7-4. Configuration Related To Recognition Time Difference

In addition, the timing control unit 35 is a unit that controls the recognition control unit 32 such that it causes the computer 1 to recognize the unit devices at a predetermined sequential timing. In other words, the recognition control unit 32 and the timing control unit 35 constitute means which, upon connection to the USB, initially sends the computer 1 a signal simulating a CD-ROM drive on account of the first unit device, and then, at a predetermined timing, sends the computer 1 a specified signal used for accepting recognition on the account of the second unit device.

At page 59, line 28 through page 60, line 4, please amend the paragraph as follows:

In addition, as a result of the operation of the recognition control unit 32, the recognition cancellation unit 37, etc., the USB device control unit 3, upon connection to the USB, initially

sends the computer 1 a signal simulating the CD-ROM region R3 as a CD-ROM drive, and then authorizes access to the restricted region R2 only for as long as specified signals are sent from the automatically started auto-starting program P.